

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LORETTA GREZZO PAGE,
KATHRYN AMY PEARLSTINE,
and WAIFONG L. ANTON



Appeal No. 2005-2402
Application No. 09/120,608

ON BRIEF

Before PAK, GARRIS, and TIMM, Administrative Patent Judges.
PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 13 through 23, which are all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S. C. §134.

APPEALED SUBJECT MATTER

The subject matter on appeal is directed to aqueous coating compositions, such as inks and paints, containing, *inter alia*, “non-ionic graft copolymers that are soluble in aqueous vehicles, but are substantially insoluble in water.” See the specification, page 1, lines 4-6. The non-ionic graft copolymers comprise a hydrophobic backbone with non-ionic, hydrophilic side chains. See the specification, page 4, lines 12-27. “By adjusting the hydrophilic/hydrophobic balance of the backbone and side chains, the binder can be tailored for solubility in aqueous vehicles, while in itself being water insoluble.” See the specification, page 5, lines 13-15.

Details of this appealed subject matter are recited in claim 13, which is reproduced below¹:

13. An aqueous coating composition comprising:

(a) an aqueous vehicle comprising water and at least one organic co-solvent, wherein water comprises no more than 80% by weight of the total weight of the vehicle, and wherein the co-solvent is water-soluble or water-miscible so as to form a single phase vehicle with water;

(b) a pigment dispersion comprising a pigment and a polymeric dispersant, and

(c) a film-forming, non-ionic graft copolymer binder comprising a hydrophobic backbone and non-ionic, hydrophilic side chains, said side chains having a number average molecular weight of at least 500, wherein the graft copolymer is soluble in the vehicle but substantially insoluble in water.

¹ On page 4 of the Brief, the appellants state that “the present claims stand or fall together.” Therefore, for purpose of this appeal, we selected the broadest claim on appeal, claim 13, as representative of all of the claims on appeal and determine the propriety of the examiner’s rejection below based on this claim alone consistent with 37 CFR §1.192(c)(7)(2003) and 37 CFR §41.37(c)(i)(vii)(2004).

PRIOR ART

The examiner relies on the following prior art references:

Ma et al. (Ma '698)	5,085,698	Feb. 04, 1992
Ma et al. (Ma '014) (Published European Patent Application, filed November 27, 1997)	EP 0 851 014	Jul. 01, 1998

REJECTION

Claims 13 through 23 stand rejected under 35 U.S.C. §103(a) as unpatentable over the combined disclosures of Ma '014 and Ma '698.

OPINION

We have carefully reviewed the claims, specification, applied prior art, including all of the arguments advanced by the examiner and the appellants in support of their respective positions. This review has led us to conclude that the examiner's Section 103 rejection is not well founded. Accordingly, we reverse the examiner's Section 103 rejection for the reasons set forth in the Brief. We add the following primarily for emphasis.

As evidence of obviousness of the subject matter defined by the claims on appeal under Section 103, the examiner relies on the combined disclosures of Ma '014 and Ma '698. The examiner relies on Ma '014 to show an ink composition containing, *inter alia*, an aqueous medium containing the claimed proportion of water and a co-solvent, the claimed pigment dispersion and hydrosol polymers. See the Answer, pages 3-4. The examiner relies on Ma '698 to show that "the use of solvents such as pyrrolidone and glycol ethers" in ink compositions is known. See the Answer, page 5.

The appellants have not disputed the examiner's finding that Ma '014 teaches an ink composition containing the claimed aqueous vehicle and the claimed pigment dispersion. See, e.g., the Brief, page 4. Nor have the appellants disputed the examiner's finding that Ma '698 teaches "the use of solvents such as pyrrolidone and glycol ethers" in ink compositions to be known. See the Brief in its entirety. The appellants, however, argue that the hydrosol polymers described in Ma '014 are not the claimed film-forming, non-ionic graft copolymer since they are not soluble (but dispersible) in the claimed aqueous vehicle. See the Brief, pages 4-7.

The dispositive question is, therefore, whether the hydrosol polymers in question are "soluble" in the aqueous medium containing water and water miscible co-solvent employed in the ink composition taught by Ma '014. Although we consider this to be a very close question, we are constrained to agree with the appellants that the examiner has not established that the hydrosol polymers described in Ma '014 are "soluble" as required by the claims on appeal.

As pointed out by the appellants (Brief, pages 4-7), the plain language of the claims on appeal indicates that the entire film-forming, non-ionic graft copolymer "is soluble in the [claimed] aqueous vehicle, but substantially insoluble in water." The term "soluble" in the claims on appeal refers to the entire film-forming, non-ionic graft copolymer, rather than to a portion of the film-forming, non-ionic graft copolymer. See, e.g., claim 13, component (c). Although there is no dispute that the hydrosol polymers in question are graft copolymers containing a hydrophobic backbone and non-ionic, hydrophilic side chains having the claimed

Appeal No. 2005-2402

Application No. 09/120,608


number average molecular weight, the examiner has not established that Ma '014 and '698 teach adjusting the ratio of the hydrophilic side chains/hydrophobic backbone of the hydrosol polymers to render the entire hydrosol polymer "soluble" in their aqueous medium. The appellants direct us to page 4, lines 10-12, of Ma '014, which teaches that "[t]he hydrosol polymers are water-insoluble polymers initially synthesized in organic solvent and then dispersed as a separate phase in the aqueous carrier medium (emphasis added)." Indeed, the examiner acknowledges that Ma '014 "teaches against complete solubility of the hydrosol in the aqueous vehicle." See the Answer, page 9. It follows that the examiner, on this record, has not established a *prima facie* case of obviousness within the meaning of Section 103.

Application No. 09/120,608


In view of the foregoing, we reverse the examiner's decision rejecting claims 13 through 23 under 35 U.S.C. § 103.

BRADLEY R. GARRIS
Administrative Patent Judge

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Administrative Patent Judge


CHUNG K. PAK
Administrative Patent Judge

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6

Appeal No. 2005-2402

Application No. 09/120,608

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